

DAFTAR PUSTAKA

- Agustina, R. A. E. (2024). The Mathematics Creative Thinking Skills on the Connecting, Organizing, Reflecting, and Extending (CORE) Learning Model Seen from Students Independence Assisted by Contextual Module. *Journal of Research and Educational Research Evaluation*, 13(2), 224-231.
- Ahmadi, D. M. R. (2018). The use of technology in English language learning: A literature review. *International journal of research in English education*, 3(2), 115-125.
- Ahsan, M. J. (2025). Cultivating a culture of learning: the role of leadership in fostering lifelong development. *The learning organization*, 32(2), 282-306.
- Akinbobola, A. O., & Bada, A. A. (2018). Relative Effectiveness Of Case-Based And Collaborative Learning Strategies On Students'achievement And Retention In Senior Secondary School Physics. *European Journal of Education Studies*.
- Allchin, D. (2013). Problem-and case-based learning in science: an introduction to distinctions, values, and outcomes. *CBE—Life Sciences Education*, 12(3), 364-372.
- Alshehri, A. (2021). The effectiveness of a micro-learning strategy in developing the skills of using augmented reality applications among science teachers in jeddah. *International Journal of Educational Research Review*, 6(2), 176-183.
- Apaydin, M., & Hossary, M. (2017). Achieving metacognition through cognitive strategy instruction. *International journal of educational management*, 31(6), 696-717.
- Aryanti, P. I., Cahyani, D. Y. A. A., Rimawati, R., Astuti, V. W., & Kristianti, E. E. (2026). Literatur Review: Efektivitas Pengembangan Pembelajaran Blended Learning Flipped Classroom dengan Case-Based Learning terhadap Hasil Belajar Mahasiswa Keperawatan: Literature Review: The Effectiveness of Developing Blended Learning Flipped Classroom with Case-Based Learning on Nursing Student Learning Outcomes. *Jurnal Ners LENTERA*, 14(1), 39-55.
- Astuti, I. A. D., Dasmo, D., Nurullaeli, N., & Rangka, I. B. (2018). The impact of pocket mobile learning to improve critical thinking skills in physics learning. In *Journal of Physics: Conference Series* (Vol. 1114, No. 1, p. 012030). IOP Publishing.
- Bakri, F., Ervina, E., & Mulyati, D. (2019). Practice the higher-order thinking skills in optic topic through physics worksheet equipped with augmented reality. In *AIP Conference Proceedings* (Vol. 2169, No. 1). AIP Publishing.

- Banathy, B. H. (1987). *Instructional systems design*. Instructional technology: Foundations, 85-112.
- Banathy, B. H. (2013). *Designing social systems in a changing world*. Springer Science & Business Media.
- Banda, H. J., & Nzabahimana, J. (2021). Effect of integrating physics education technology simulations on students' conceptual understanding in physics: A review of literature. *Physical Review Physics Education Research*, 17(2), 023108.
- Besche, H.C., Schwartzstein, R.M., King, R.W., Hoenig, M.P., Cockril, B.A. (2022). *A Step-by-Step Guide to Case-Based Collaborative Learning (CBCL)*. Springer.
- Borg, W. R., & Gall, M. D. (1983). *Educational research: an introduction*. London: Longman, Inc.
- Boulet, G. (2009). *Rapid prototyping: An efficient way to collaboratively design and develop e-learning content*. Navy e-learning center of Excellence.
- Branch, R. M. (2009). *Instructional design: The ADDIE approach* (Vol. 722). New York: Springer.
- Branch, R.M. & Dousay, T.A. (2015). *Survey of Instructional Design Models. 5th Edition, Association for Educational Communications and Technology, Bloomington*.
- Bruck, P. A., Motiwalla, L., & Foerster, F. (2012). Mobile learning with micro-content: a framework and evaluation. *BLEED Proceedings*.
- Burton, W. (1984). *The Guidance of Learning Activities*. New York: Appleton Century Croffs.
- Çam, A., & Geban, Ö. (2017). Effectiveness of case-based learning instruction on pre-service teachers' chemistry motivation and attitudes toward chemistry. *Research in Science & Technological Education*, 35(1), 74-87.
- Contreras, G. S., Lezcano, R. A. G., & Fernández, E. J. L. (2023). Microlearning in Physics Teaching: An Innovative Proposal. *In Advancing STEM Education and Innovation in a Time of Distance Learning* (pp. 139-149). IGI Global.
- Corbeil, M. E., Corbeil, J. R., & Khan, B. H. (2021). *A multidimensional roadmap for implementing effective microlearning solutions*. Microlearning in the digital age: The design and delivery of learning in snippets, 2-13.
- Choudhary, H., & Pandita, D. (2023). Maximizing learning outcomes in the digital age: the role of microlearning for Gen Z. *Development and Learning in Organizations: An International Journal*.

- Dayu, D.P.K., Kurniawati, R.P., & Rulviana, V. (2022). *Pembelajaran Blended Learning Model Case Based Learning pada Implementasi Kurikulum Merdeka*. Magetan: Ae Media Grafika.
- Demircioğlu, S., & Sezgin Selçuk, G. (2016, December). The effect of the case-based learning method on high school physics students' conceptual understanding of the unit on energy. *In Asia-Pacific Forum on Science Learning & Teaching* (17), 2.
- Dewi, P. Y., & Primayana, K. H. (2019). Effect of learning module with setting contextual teaching and learning to increase the understanding of concepts. *International Journal of Education and Learning*, 1(1), 19-26.
- Dick, W., Carey, L., & Carey, J. (2004). *Systematic design of instruction*. Upper Saddle River, NJ: Pearson Education.
- Donkin, R., & Kynn, M. (2021). Does the learning space matter? An evaluation of active learning in a purpose-built technology-rich collaboration studio. *Australasian Journal of Educational Technology*, 37(1), 133-146.
- Dolasinski, M. J., & Reynolds, J. (2020). Microlearning: a new learning model. *Journal of Hospitality & Tourism Research*, 44(3), 551-561.
- Foziljonovna, S. Y. (2024). Improving Independent Learning Skills Of Upper School Students In Mastering Subjects. *Prospects And Main Trends In Modern Science*, 2(15), 54-58.
- Fidan, M. (2023). The effects of microlearning-supported flipped classroom on pre-service teachers' learning performance, motivation and engagement. *Education and Information Technologies*, 1-28.
- Gade, S., & Chari, S. (2013). Case-based learning in endocrine physiology: an approach toward self-directed learning and the development of soft skills in medical students. *Advances in physiology education*, 37(4), 356-360.
- Gagne, R. M., Wager, W. W., Golas, K. C., Keller, J. M., & Russell, J. D. (2005). *Principles of instructional design*.
- Gall, M. D., & Borg, W. R. (1989). *Educational research. A guide for preparing a thesis or dissertation proposal in education*. Longman, Inc., Order Dept., 95 Church Street, White Plains, NY 10601 Stock No. 78164-6.
- Giurgiu, L. (2017). Microlearning an evolving elearning trend. *Scientific Bulletin*, 22(1), 18-23.
- Gómez, D., Bermeo, A., Prado, D., & Cedillo, P. (2021). Microlearning method to building learning capsules for older adults: a case study for COVID-19 prevention at home. *In 2021 IEEE Fifth Ecuador Technical Chapters Meeting (ETCM) (pp. 1-6)*. IEEE.
- Göschlberger, B., & Bruck, P. A. (2017). Gamification in mobile and workplace integrated microlearning. *In Proceedings of the 19th international conference*

on information integration and web-based applications & services (pp. 545-552).

- Gravett, S., de Beer, J., Odendaal-Kroon, R., & Merseth, K. K. (2017). The affordances of case-based teaching for the professional learning of student-teachers. *Journal of curriculum studies*, 49(3), 369-390.
- Gustafson, K. L., & Branch, R. M. (2002). *What is instructional design*. Trends and issues in instructional design and technology, 2, 10-16.
- Hall, S. C. (1883). *Retrospect of a long life* (Vol. 1). Рипол Классик.
- Harman, T., Bertrand, B., Greer, A., Pettus, A., Jennings, J., Wall-Bassett, E., & Babatunde, O. T. (2015). Case-based learning facilitates critical thinking in undergraduate nutrition education: students describe the big picture. *Journal of the Academy of Nutrition and Dietetics*, 115(3), 378-388.
- Hartati, H., Mondolang, A. H., Silangen, P. M., Tulandi, D. A., Marianus, M., & Poluakan, C. (2021). PIMCA learning models to improve student learning outcomes in optic magnifying glass tool. In *Journal of Physics: Conference Series* (Vol. 1968, No. 1, p. 012036). IOP Publishing.
- Hegerius, A., Caduff-Janosa, P., Savage, R., & Ellenius, J. (2020). E-learning in pharmacovigilance: An evaluation of microlearning-based modules developed by uppsala monitoring centre. *Drug safety*, 43, 1171-1180.
- Heinich, D. Russell, Molenda., dan E Smaldino. (2005). *Instructional Technology and Media for Learning*. New Jersey, Columbus, Ohio: Pearson Merrill Prentice Hall. Upper Saddle River.
- Herreid, C. F. (2014). *The Why and Wherefore of Teaching With Cases. Science Stories You Can Count On: 51 Case Studies With Quantitative Reasoning in Biology*.
- Hochberg, K., Kuhn, J., & Müller, A. (2018). Using smartphones as experimental tools—effects on interest, curiosity, and learning in physics education. *Journal of Science Education and Technology*, 27, 385-403.
- Hug, T., & Friesen, N. (2007). *Outline of a microlearning agenda. Didactics of microlearning. Concepts, discourses and examples*, 15-31.
- Javed, Y., & Odhabi, H. (2018). Active learning in classrooms using online tools: evaluating Pear-Deck for students' engagement. In *2018 Fifth HCT Information Technology Trends (ITT)* (pp. 126-131). IEEE.
- Javorcik, T., & Polasek, R. (2019). Transformation of e-learning into microlearning: New approach to course design. In *AIP conference proceedings* (Vol. 2116, No. 1, p. 060016). AIP Publishing LLC.
- Javorcik, T., Kostolanyova, K., & Havlaskova, T. (2023). Microlearning in the Education of Future Teachers: Monitoring and Evaluating Students' Activity in a Microlearning Course. *Electronic Journal of e-Learning*, 21(1), 13-25.

- Jonassen, D. H., & Carr, C. S. (2020). Mindtools: Affording multiple knowledge representations for learning. In *Computers as cognitive tools* (pp. 165-196). Routledge.
- Kaddoura, M. A. (2011). Critical thinking skills of nursing students in lecture-based teaching and case-based learning. *International Journal for the Scholarship of Teaching and Learning*, 5(2), n2.
- Kapp, K. M., & Defelice, R. A. (2019). *Microlearning: Short and sweet*. American Society for Training and Development.
- Kohnke, L., Fount, D., & Zou, D. (2023). Microlearning: A new normal for flexible teacher professional development in online and blended learning. *Education and Information Technologies*, 1-24.
- Kolodner, J. L., Owensby, J. N., & Guzdial, M. (2013). *Case-based learning aids*. In *Handbook of research on educational communications and technology* (pp. 820-852). Routledge.
- Krasnova, L. A., & Shurygin, V. Y. (2020). Blended learning of physics in the context of the professional development of teachers. *International Journal of Technology Enhanced Learning*, 12(1), 38-52.
- Kulak, V., & Newton, G. (2014). A guide to using case-based learning in biochemistry education. *Biochemistry and molecular biology education*, 42(6), 457-473.
- Lee, J., & Jang, S. (2014). A methodological framework for instructional design model development: Critical dimensions and synthesized procedures. *Education Technology Research and Development*, 62(6), 743-765.
- Lee, Y. M., Jahnke, I., & Austin, L. (2021). Mobile microlearning design and effects on learning efficacy and learner experience. *Educational Technology Research and Development*, 69, 885-915.
- Lin, Y. T., Wang, M. T., & Wu, C. C. (2019). Design and implementation of interdisciplinary STEM instruction: Teaching programming by computational physics. *The Asia-Pacific Education Researcher*, 28, 77-91.
- Lutz, M. (2021). *Introduction to Microlearning*. Canada: Commonwealth of Learning.
- Ma, N., Zhao, F., Zhou, P.-Q., He, J.-J., & Du, L. (2021). Knowledge map-based online micro-learning: impacts on learning engagement, knowledge structure, and learning performance of in-service teachers. *Interactive Learning Environments*, 1-16. <https://doi.org/10.1080/10494820.2021.1903932>
- Major, A., & Calandrino, T. (2018). Beyond chunking: Micro-learning secrets for effective online design. *FDLA journal*, 3(1), 13.
- Mangion, M. (2024). Creativity as a Skill for Lifelong Learning and How to Nurture it in the Workplace. In *Creativity and Learning: Navigating Transformative*

- Perspectives for Complex and Contemporary Environments* (pp. 301-329). Cham: Springer Nature Switzerland.
- Matzavela, V., & Alepis, E. (2021). M-learning in the COVID-19 era: physical vs digital class. *Education and Information Technologies*, 26(6), 7183-7203.
- McLean, S. F. (2016). Case-based learning and its application in medical and health-care fields: a review of worldwide literature. *Journal of medical education and curricular development*, 3, JMECD-S20377.
- Miarso, Y. (2005). *Menyemai Benih Teknologi Pendidikan*. Jakarta : Kencana.
- Miles, Matthew B dan Amichael Huberman. (2007). *Analisis Data Kualitatif Buku Sumber tentang Metode-Metode Baru*. Terjemahan Tjetjep Rohendi Rohisi. Jakarta: Universitas Indonesia.
- Mohammed, G. S., Wakil, K., & Nawroly, S. S. (2018). The effectiveness of microlearning to improve students' learning ability. *International Journal of Educational Research Review*, 3(3), 32-38.
- Molenda, M. (2003). In search of the elusive ADDIE model. *Performance improvement*, 42(5), 34-37.
- Morgan, A. (2019). *Microlearning Made Simple: A Step-by-Step Guide*.
- Morrison, G. R., Ross, S. J., Morrison, J. R., & Kalman, H. K. (2019). *Designing effective instruction*. John Wiley & Sons.
- Muliyati, D., Bakri, F., & Ambarwulan, D. (2019). The design of sound wave and optic marker for physics learning based-on augmented reality technology. *In Journal of Physics: Conference Series* (Vol. 1318, No. 1, p. 012012). IOP Publishing.
- Muir, S., Tirlea, L., Elphinstone, B., & Huynh, M. (2020). Promoting classroom engagement through the use of an online student response system: a mixed methods analysis. *Journal of Statistics Education*, 28(1), 25-31.
- Netzer, C., & Mittelstädt, A. (2021). Incorporating microlearning videos, online exercises and assessments into introductory physics. arXiv preprint arXiv:2108.01385.
- Nikou, S. (2019). A micro-learning based model to enhance student teachers' motivation and engagement in blended learning. In *Society for Information Technology & Teacher Education International Conference* (pp. 509-514). Association for the Advancement of Computing in Education (AACE).
- Nortvig, A. M., Petersen, A. K., Helsinghof, H., & Brænder, B. (2020). Digital expansions of physical learning spaces in practice-based subjects-blended learning in Art and Craft & Design in teacher education. *Computers & Education*, 159, 104020.

- Nowak, G., Speed, O., & Vuk, J. (2023). Microlearning activities improve student comprehension of difficult concepts and performance in a biochemistry course. *Currents in Pharmacy Teaching and Learning*, 15(1), 69-78.
- Pachler, N., Bachmair, B., Pachler, N., Cook, J., & Kress, G. (2010). *Mobile learning* (pp. 155-171). Boston, MA: Springer US.
- Pantiwati, Y. (2017). Self and peer assessments in active learning model to increase metacognitive awareness and cognitive abilities. *International Journal of Instruction*, 10(4), 185-202.
- Pascual, R., Blanco, E., Viveros, P., & Kristjanpoller, F. (2021). Application of Microlearning Activities to Improve Engineering Students' Self-Awareness. *International Journal Of Engineering Education*, 37(3), 576-584.
- Permata, L. D., Kusmayadi, T. A., & Fitriana, L. (2018, November). Mathematical problem solving skills analysis about word problems of linear program using IDEAL problem solver. In *Journal of Physics: Conference Series* (Vol. 1108, No. 1, p. 012025). IOP Publishing.
- Plomp, T. (2013). Educational design research: An introduction. *Educational design research*, 1, 11-50.
- Polasek, R., & Javorcik, T. (2019). MicroLearning approach to e-learning course creation and reasons for it. In *AIP Conference Proceedings* (Vol. 2186, No. 1). AIP Publishing.
- Premalatha, K. (2019). Course and program outcomes assessment methods in outcome-based education: A review. *Journal of Education*, 199(3), 111-127.
- Pribadi, B. A. (2009). *Desain sistem pembelajaran*. Jakarta: PT Dian Rakyat.
- Pricilia, A., Abdurrahman, A., & Herlina, K. (2020). Teacher expectation towards interactive multimedia integrated with STEM in learning physics: Preliminary study on geometry optic learning material. In *Journal of Physics: Conference Series* (Vol. 1572, No. 1, p. 012065). IOP Publishing.
- Rahmadani, S., Samsudin, A., Danawan, A., Kaniawati, I., & Suhendi, E. (2019). Improving students' conceptual knowledge on optical device materials with computer simulations. In *Journal of Physics: Conference Series* (Vol. 1280, No. 5, p. 052049). IOP Publishing.
- Rao, N. J. (2020). Outcome-based education: An outline. *Higher Education for the Future*, 7(1), 5-21.
- Raza, S. A., Qazi, W., & Umer, B. (2020). Examining the impact of case-based learning on student engagement, learning motivation and learning performance among university students. *Journal of Applied Research in Higher Education*, 12(3), 517-533.
- Rebello, N. S., Cui, L., Bennett, A. G., Zollman, D. A., & Ozimek, D. J. (2017). Transfer of learning in problem solving in the context of mathematics and

- physics. In *Learning to solve complex scientific problems* (pp. 223-246). Routledge.
- Redondo, R. P. D, Caeiro Rodríguez, M., López Escobar, J. J., & Fernández Vilas, A. (2021). Integrating micro-learning content in traditional e-learning platforms. *Multimedia Tools and Applications*, 80, 3121-3151.
- Redondo, R. P. D., Ktena, A., Kunicina, N., Zabasta, A., Patlins, A., & Mele, D. E. (2020). Advanced practices: micro learning, practice oriented teaching and gamified learning. In *2020 IEEE 61th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCon)* (pp. 1-7). IEEE.
- Reiser, R.A., & Dempsey, J.V. (Eds.) (2018). *Trends furthermore Features in Teachable Design and Technology* (4th ed.). New York, NY: Pearson Educating.
- Rhodes, A., Wilson, A., & Rozell, T. (2020). Value of case-based learning within STEM courses: is it the method or is it the student?. *CBE—Life Sciences Education*, 19(3), ar44.
- Richey, R. C., & Klein, J. D. (2013). Design and development research. In *Handbook of research on educational communications and technology* (pp. 141-150). New York, NY: Springer New York.
- Richey, R. C., Klein, J. D., & Tracey, M. W. (2010). *The instructional design knowledge base: Theory, research, and practice*. Routledge.
- Rivers, M. L., Dunlosky, J., & Persky, A. M. (2020). Measuring metacognitive knowledge, monitoring, and control in the pharmacy classroom and experiential settings. *American journal of pharmaceutical education*, 84(5), 7730.
- Rohmah, N., & Jauhariyah, M. N. R. (2020). The Effect Of Scientific Literacy Integration With Case-Based Learning Model On Students' Critical-Thinking Skills. *Inovasi Pendidikan Fisika*, 9(02).
- Romanenko, Y. N., Solodovnikova, E., & Maksimenko, N. (2023). Microlearning as a new method of teaching soft skills to university students. In *Frontiers in Education* (Vol. 8, p. 1177516). Frontiers.
- Selviana, A. S., & Sunarno, W. (2022). The Effectiveness of Using Physics Module with Problem-Based Learning to Enhance Critical and Creative Thinking Skills. *Journal of Education Research and Evaluation*, 6(1), 19-25.
- Sendur, G. (2012). The effects of case-based learning on freshmen students' chemistry achievement. *Energy Education Science and Technology Part B: Social and Educational Studies*, 4(3), 1289-1302.

- Sha, L., Looi, C. K., Chen, W., & Zhang, B. H. (2012). Understanding mobile learning from the perspective of self-regulated learning. *Journal of computer assisted learning*, 28(4), 366-378.
- Shih, Y. (2020). *An introduction to quantum optics: photon and biphoton physics*. CRC press.
- Siregar, E., & Hadiansyah, T. (2018). *Pedoman Pelaksanaan Evaluasi Media Pembelajaran*. Jakarta: UNJ Press.
- Skalka, J., & Drlik, M. (2020). Educational model for improving programming skills based on conceptual microlearning framework. In *The Challenges of the Digital Transformation in Education: Proceedings of the 21st International Conference on Interactive Collaborative Learning (ICL2018)-Volume 1* (pp. 923-934). Springer International Publishing.
- Sözmen, E. Y., Karaca, O., & Batı, A. H. (2023). The effectiveness of interactive training and microlearning approaches on motivation and independent learning of medical students during the COVID-19 pandemic. *Innovations in Education and Teaching International*, 60(1), 70-79.
- Srisawasdi, N. (2012). Fostering pre-service STEM teachers' technological pedagogical content knowledge: A lesson learned from case-based learning approach. *Journal of The Korean Association for Science Education*, 32(8), 1356-1366.
- Stavrinou, L., Constantinides, A., Belk, M., Vassiliou, V., Liarokapis, F., & Constantinides, M. (2025). *The Reel Deal: Designing and Evaluating LLM-Generated Short-Form Educational Videos*. <https://arxiv.org/abs/2509.05962v1>
- Sugiyono. (2009). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta.
- Sung, A., Leong, K., & Lee, C. (2023). A study of learners' interactive preference on multimedia microlearning. *Journal of Work-Applied Management*, 15(1), 96-119.
- Suparman, M.A. (2014). *Desain Instruksional Modern*. Jakarta: Erlangga.
- Suprijono, A. (2016). *Model-model pembelajaran emansipatoris*. Yogyakarta : Pustaka Pelajar
- Thalheimer, W. (2017). *Definition of microLearning*. Work-Learning Research.
- Thistlethwaite, J. E., Davies, D., Ekeocha, S., Kidd, J. M., MacDougall, C., Matthews, P., ... & Clay, D. (2012). The effectiveness of case-based learning in health professional education. A BEME systematic review: BEME Guide No. 23. *Medical teacher*, 34(6), e421-e444.
- Thorndike, E. L., Bregman, E. O., Tilton, J. W., & Woodyard, E. (1928). *Adult Learning*. New York: Macmillan.

- Torgerson, C., & Iannone, S. (2019). *Designing microlearning*. American Society for Training and Development.
- Tripp, S. D., & Bichelmeyer, B. (1990). *Rapid prototyping: An alternative instructional design strategy*. Educational technology research and development, 38(1), 31-44.
- Tubagus, M. (2020). *Teori dan Latihan Pengembangan Sistem Instruksional Instructional System Development*.
- Uskenat, K., Iswanto, B. H., & Indrasari, W. (2021). Spring oscillator as case based learning (CBL) device. In *Journal of Physics: Conference Series* (Vol. 1806, No. 1, p. 012008). IOP Publishing.
- Wati, D. A., & Sunarti, T. (2020). Implementation of Case Based Learning (CBL) to Improve Scientific Reasoning Skill on Simple Harmonic Vibration Topic. In *Journal of Physics: Conference Series* (Vol. 1491, No. 1, p. 012040). IOP Publishing.
- Wena, W. (2010). *Strategi Pembelajaran Inovatif Kontemporer : Suatu Tinjauan Konseptual Operasional*. Jakarta Timur: Bumi Aksara.
- Wibawa, B., & Muhidin, A. (2021). The effect of instructional videos on learning performance. In *AIP Conference Proceedings* (Vol. 2331, No. 1). AIP Publishing.
- Wibisono, D. (2014). *Active Learning with Case Method*. Yogyakarta: Andi.
- Wijaya, N., Yani, A., & Nandi, N. (2023). The Development of Microlearning-Based on Teaching Materials to Increase Students' Ecoliteracy. *Journal of Education, Teaching and Learning*, 8(2), 155-163.
- Williams, B. (2005). Case based learning—a review of the literature: is there scope for this educational paradigm in prehospital education?. *Emergency Medicine Journal*, 22(8), 577-581.
- Zuidema, D. R., & Zuidema, R. H. (2021). From passive observers to active participants: Using interactive remote demonstrations to increase student involvement in online chemistry instruction. *Journal of Chemical Education*, 98(3), 843-849.